

Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A seal assembly for a solid oxide fuel cell stack, comprising:

at least two fuel cells each comprising an electrolyte having a cathode layer on one side and ~~and~~ an anode layer on the other side, and at least one bipolar plate between the at least two fuel cells, the at least two fuel cells and the bipolar plate collectively defining at least two fuel cell components having opposed surfaces; and

a continuous fiber tow wrapped into a closed-loop structure forming a substantially gas impermeable seal between said opposed surfaces.

2. (previously presented) The apparatus according to claim 1, wherein said seal comprises a stable oxide ceramic.

3. (previously presented) The apparatus according to claim 1, wherein said seal comprises at least one material selected from the group consisting of alumina, magnesia, zirconia, mullite, yttrium aluminum garnate, magnesium silicate and combinations thereof.

4. (canceled)

5. (previously presented) A seal assembly for a solid oxide fuel cell stack, comprising:

at least two fuel cell components having opposed surfaces;
and

a seal member disposed between said surfaces, wherein said

seal member comprises one or more substantially continuous fibers, and wherein said fibers are impregnated with Ag_2O .

6. (previously presented) The apparatus of claim 1, wherein said seal is impregnated with at least one metal selected from the group consisting of Ni, Cr, Ag, Cu, Fe, Al and combinations thereof.

7. (previously presented) The apparatus of claim 1, wherein said seal is impregnated with at least one material selected from the group consisting of alumina, zirconia, yttria aluminum garnate, magnesium silicate and combinations thereof.

8. (previously presented) The apparatus of claim 1, wherein said seal is impregnated with Ag_2O .

9. (previously presented) The apparatus of claim 1, wherein said seal comprises at least a first fiber in a substantially concentric relationship with a second fiber.

10. (previously presented) The apparatus of claim 9, wherein said at least two fuel cell components comprise a separator plate and a fuel cell with said seal disposed therebetween.

11. (previously presented) The apparatus of claim 1, further comprising a compression stop extending from at least one of said fuel cell components toward the other of said fuel cell components and defining thereon at least one of said opposed surfaces and having a groove for receiving said seal member.

12. (previously presented) The apparatus of claim 11, wherein said seal has a height and said groove has a depth, and wherein said height is greater than said depth whereby said seal in said groove can be compressed between said opposed surfaces.

13. (withdrawn) A seal member for a solid oxide fuel cell stack, comprising one or more substantially continuous fibers.

14. (withdrawn) The seal member of claim 13, wherein said seal is defined by multiple loops of said substantially continuous fibers.

15. (withdrawn) The seal member of claim 14, wherein said at least one substantially continuous fiber defines said multiple loops, and wherein end portions of said substantially continuous fibers are wrapped around said multiple loops.

16. (withdrawn) The seal member according to claim 13, wherein at least one of said substantially continuous fibers comprises a stable oxide ceramic.

17. (withdrawn) The seal member according to claim 13, wherein at least one of said substantially continuous fibers comprises a material selected from the group consisting of alumina, zirconia, yttria aluminum garnate, magnesium silicate and combinations thereof.

18. (withdrawn) The seal member according to claim 13, wherein at least one of said substantially continuous fibers comprises an elongate compressible member having a structure selected from the group consisting of tows, yarns, woven fibers and combinations thereof.

19. (withdrawn) The seal member according to claim 13, wherein said seal member is impregnated with a plurality of particles.

20. (withdrawn) The seal member according to claim 19, wherein said particles comprise at least one metal selected from the group consisting of Ni, Cr, Ag, Cu, Fe, Al and combinations thereof.

21. (withdrawn) The seal member according to claim 13, wherein said fibers are impregnated with Ag_2O .

22. (canceled)

23. (canceled)

24. (currently amended) A seal assembly for a solid oxide fuel cell stack, comprising:

at least two fuel cells each comprising an electrolyte having a cathode layer on one side and ~~and~~ an anode layer on the other side, and at least one bipolar plate between the at least two fuel cells, the at least two fuel cells and the bipolar plate collectively defining at least two fuel cell components having opposed surfaces;

a continuous fiber tow wrapped into a closed-loop structure forming a substantially gas impermeable seal between said opposed surfaces; and

a compression stop disposed between said opposed surfaces of said fuel cell stack components.

25. (original) The apparatus of claim 24, further comprising a frame situated between said opposed surfaces, wherein said frame is located adjacent one opposed surface, and

wherein said compression stop is disposed on said frame.

26. (currently amended) The apparatus of claim 24, wherein said opposed surfaces comprise ~~comprised~~ substantially planar surfaces, and wherein said compression stop extends from one of said substantially planar surfaces toward the other of said substantially planar surfaces.